

CLAIMS

What is claimed is:

Sub
a7 1. A method of attaching a wafer having bumps on a surface thereof, comprising:
attaching a tape having an adhesive and a backing on at least a portion of said surface of said
wafer;
providing a wafer mount having a suction surface; and
applying said suction force to said backing of said tape.

2. The method of claim 1, further comprising:
removing wafer material from a back surface of said wafer.

3. The method of claim 1, wherein said attaching a tape having an adhesive and a backing
includes:
conforming said backing to include a substantially planar surface on at least a portion thereof.

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a2 4. The method of claim 3, wherein said applying said suction for to said backing of said
tape comprises applying a suction force to said substantially planar surface of said suction surface.

5. The method of claim 1, wherein said applying a tape having an adhesive and a backing
comprises:
conforming at least a portion of the adhesive of said tape to said bumps forming a substantially
planar surface on said backing of said tape.

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C1 6. The method of claim 1, wherein said applying a suction force to said backing of said
tape includes abutting said backing to said suction surface of said wafer mount.

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7. The method of claim 1, wherein said wafer comprises a wafer having a thickness of at least about 12 mils.

8. The method of claim 2, wherein said removing comprises thinning said wafer to a thickness in the range of about 6 mils and about 12 mils.

9. The method of claim 2, wherein said removing comprises thinning said wafer to one of about 6 mils thickness and less than about 6 mils thickness.

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10. The method of claim 2, wherein said removing comprises grinding said back surface of said wafer.

11. The method of claim 2, wherein said removing comprises thinning said wafer by chemical-mechanical polishing said back surface of said wafer.

12. A method of holding a wafer having bumps on at least a portion of a surface thereof, comprising:
applying an adhesive to a portion of said surface of said wafer;
attaching a backing to at least a portion of said adhesive;
providing a wafer mount having a suction surface; and
holding said backing to said suction surface of said wafer mount using a suction force.

13. The method of claim 12, further comprising:
removing wafer material from another surface of said wafer.

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14. The method of claim 12, wherein said attaching said backing comprises:
conforming said backing to at least a portion of said surface of said wafer for forming a substantially planar surface.

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15. The method of claim 14, wherein said holding backing to said suction surface of said wafer mount comprises applying a suction force to said substantially planar surface of said backing.

16. The method of claim 12, wherein said attaching said backing includes conforming said adhesive and said backing to said bumps for forming a substantially planar surface on said backing.

17. The method of claim 12, wherein said holding said backing to said suction surface of said wafer mount comprises abutting at least a portion of said backing to said suction surface of said wafer mount.

18. The method of claim 12, wherein said wafer comprises a wafer having a thickness of at least about 12 mils.

19. The method of claim 13, wherein said removing comprises thinning said wafer to a thickness in the range of about 6 mils and about 12 mils.

20. The method of claim 13, wherein said removing comprises thinning said wafer to one of a thickness of about 6 mils and a thickness of about less than 6 mils.

21. The method of claim 13, wherein said removing comprises grinding said back surface of said wafer.

22. The method of claim 13, wherein said removing comprises thinning said wafer by chemical-mechanical polishing said back surface of said wafer.

23. A method for the thinning of a wafer comprising:
providing a wafer having bumps on at least a portion of a surface thereof;

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attaching an adhesive having a backing to at least a portion of the surface of said wafer;
providing a wafer mount having a suction surface;
attaching said backing of said adhesive to at least a portion of said suction surface of said wafer
mount using a suction force; and
removing wafer material from another surface of said wafer.

24. The method of claim 23, wherein said attaching said adhesive having said backing
comprises conforming said backing to include a substantially planar surface.

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25. The method of claim 24, wherein said attaching said backing to at least a portion of
said suction surface of said wafer mount comprises applying said suction force to said
substantially planar surface of said backing.

FIG. 10

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26. The method of claim 23, wherein said attaching said adhesive having said backing
comprises providing an adhesive portion conforming to said bumps for said backing includes a
substantially planar surface.

27. The method of claim 23, wherein said attaching said backing to at least a portion of
said suction surface of said wafer mount comprises abutting at least a portion of said backing to at
least a portion of said suction surface for said suction force attaches said wafer to said wafer
mount.

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28. The method of claim 23, wherein said wafer comprises a wafer having a thickness of
at least about 12 mils.

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29. The method of claim 24, wherein said removing comprises thinning said wafer
thickness in the range of about 6 mils and about 12 mils.

30. The method of claim 23, wherein said removing comprises thinning said wafer to one of about 6 mils and less than about 6 mils.

31. The method of claim 23, wherein said removing comprises grinding said back surface of said wafer.

32. The method of claim 23, wherein said removing comprises thinning said wafer by chemical-mechanical polishing said back surface of said wafer.

33. A method of fabricating a wafer having a front surface having bumps thereon and a back surface, comprising:
applying an adhesive having a backing on said bumps of said front surface of said wafer;
providing a wafer mount having a suction surface;
attaching at least a portion of said backing to at least a portion of said suction surface of said wafer mount chuck using a suction force; and
removing wafer material from said back surface of said wafer.

34. The method of claim 33, wherein said applying said adhesive having said backing comprises conforming said backing to include a substantially planar surface.

35. The method of claim 34, wherein said applying at least a portion of said backing to at least a portion of said suction surface of said wafer mount comprises applying said suction force to at least a portion of said substantially planar surface of said backing.

36. The method of claim 33, wherein said applying said adhesive having said backing comprises providing an adhesive portion conforming to said bumps for said backing including a substantially planar surface.

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37. The method of claim 33, wherein said attaching said backing to said suction surface of said wafer mount comprises abutting at least a portion of said backing to said suction surface for said suction force to attach said wafer to said wafer mount.

38. The method of claim 33, wherein said wafer comprises a wafer having a thickness of at least about 12 mils.

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39. The method of claim 33, wherein said removing comprises thinning said wafer to a thickness in the range of between about 6 mils and about 12 mils.

40. The method of claim 33, wherein said removing comprises thinning said wafer to a thickness of one of about 6 mils and less than about 6 mils.

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41. The method of claim 33, wherein said removing comprises grinding said second surface of said wafer.

42. The method of claim 33, wherein said removing comprises thinning said wafer by chemical-mechanical polishing said second surface of said wafer.

43. The method of claim 33, further comprising:
removing said adhesive from said wafer.

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44. The method of claim 43, further comprising:
singulating said wafer into at least one die.

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45. A method of mounting a bumped wafer having bumps on at least a portion of a surface thereof to a wafer mounting chuck, comprising:
applying an adhesive having a backing to at least a portion of said bumps and at least a portion of said surface of said surface of said wafer; and

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mounting said wafer to said wafer mounting chuck using a suction force communicated through the wafer mounting chuck.

46. The method of claim 45, wherein said applying said adhesive having a backing comprises conforming said backing to include a substantially planar surface.

47. The method of claim 46, wherein said mounting said wafer to the wafer mounting chuck comprises applying said suction force to at least a portion of said substantially planar surface.

48. The method of claim 45, wherein said applying said adhesive having said backing comprises conforming said adhesive portion to at least a portion of said bumps for said backing to include a substantially planar surface.

49. The method of claim 45, wherein said mounting said wafer to the wafer mounting chuck comprises abutting at least a portion of said backing to a suction surface of the wafer mounting chuck.

50. The method of claim 45, wherein said wafer comprises a wafer having thickness of at least about 12 mils.

51. A method using a vacuum to hold a bumped wafer having a front surface having bumps thereon and a back surface, comprising:
applying an adhesive having a backing to at least a portion of the front surface of said wafer covering at least one bump thereon; and
holding at least a portion of said front surface of said wafer using a vacuum applied through at least a portion of a surface of a wafer mount.

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backing.

53. The method of claim 52, wherein said holding comprises applying said vacuum to said substantially planar surface of said backing.

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54. The method of claim 51, wherein said applying said adhesive having a backing over said at least one bump comprises providing an adhesive conforming to said at least one bump for said backing to form a substantially planar surface.

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55. The method of claim 51, wherein said holding comprises abutting at least a portion of said backing to said surface of the wafer mount for said vacuum holds said wafer to the wafer mount.

56. The method of claim 51, wherein said wafer comprises a wafer having a thickness of at least about 12 mils.

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57. A wafer mount assembly for a wafer having a front surface having at least one bump thereon and a back surface, comprising:

an adhesive tape having an adhesive and having a backing, said adhesive tape for adhesively attaching a portion of said front surface of said wafer having said at least one bump thereon to a portion of said wafer mount assembly.

58. The assembly of claim 57, further comprising:

a wafer mount having a vacuum surface thereon, said vacuum surface of said wafer mount for abutting said at least a portion of said backing of said adhesive tape, and said vacuum surface including apertures therein for communicating a vacuum therethrough.

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59. The assembly of claim 57, wherein said backing of said tape includes a substantially planar surface for overlying said at least one bump.

60. The assembly of claim 59, wherein said substantially planar surface of said backing of said tape provides an area for the application of a vacuum to at least a portion of said front surface of said wafer.

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61. The assembly of claim 57, wherein said backing includes a substantially planar surface overlying said at least one bump.

62. The assembly of claim 57, wherein said adhesive attaches said at least one bump.

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63. The assembly of claim 57, wherein said adhesive conforms to said at least one bump for said backing of said tape to form a substantially planar surface on at least a portion thereof.

64. The assembly of claim 57, wherein said tape substantially overlays another bump.

65. The assembly of claim 57, wherein said wafer comprises a wafer having thickness of at least 12 mils.

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66. The assembly of claim 57, wherein said at least one bump comprises a conductive bump for electrical connection.

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67. An assembly of a bumped wafer mounted to a wafer mount for grinding, the bumped wafer comprising:

a wafer having a front surface and a back surface thereof, said front surface having at least one bump thereon; and

a tape having an adhesive and having a backing, said tape for adhesively attaching a portion of said wafer having said at least one bump thereon.

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68. The assembly of claim 67, wherein said backing includes a substantially planar surface overlying said at least one bump.

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69. The assembly of claim 67, wherein said adhesive attaches to said at least one bump for forming a substantially planar surface.

70. The assembly of claim 67, wherein said adhesive conforms to said at least one bump for said backing including a substantially planar surface on a portion thereof.

71. The assembly of claim 67, wherein said tape substantially covers the front surface of said wafer.

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72. The assembly of claim 67, wherein said at least one bump comprises a conductive bump for electrical connection.

73. The assembly of claim 67, wherein said backing comprises a resilient material.

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74. The assembly of claim 67, wherein said wafer comprises a thickness of at least 12 mils prior to being mounted to the wafer mount.

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75. The assembly of claim 67, wherein said wafer comprises another thickness of one of about less than 6 mils and greater than about 6 mils and less than about 12 mils after grinding said back surface of said wafer.